



U.S. Department
of Transportation

Federal Aviation
Administration

Memorandum

Subject: **ACTION:** Recommendation for Approval
T.F. Green State Airport Noise Compatibility
Program

Date: JUL 23 1986

From:

Acting Director, ANE-1

Reply to
Attn. of:

To:

Administrator

On March 12, 1986, a notice was published in the Federal Register announcing the Federal Aviation Administration's (FAA) determination on the noise exposure maps for T.F. Green State Airport, Rhode Island (PVD) under Section 103(a) of the Aviation Safety and Noise Abatement Act of 1979 ("the Act"). Coincident with that determination, we began the formal 180-day review period for PVD's proposed noise compatibility program under the provisions of Section 104(a) of the Act. That program must be approved or disapproved by the FAA within 180 days or it shall be deemed to be approved as provided for in Section 104(b) of the Act. The last date for such approval or disapproval is August 30, 1986.

We have reviewed and evaluated the proposed noise compatibility program and have concluded that it is consistent with the intent of the Act and that it meets the standards set forth in FAR Part 150 for such programs. The requirements of Part 150 were itemized in a checklist (Attachment 1) which was used to ensure that all required items were present in the proposed program. Our review of each item is shown in the evaluation narrative (Attachment 2).

The evaluation narrative, checklist and documentation submitted by the Rhode Island Department of Transportation were reviewed by Airports, Air Traffic and Flight Standards Divisions, and by the Regional Counsel and the Regional Noise Abatement Technical Committee. No substantive comments have been received from other participants in the study, nor from other interested parties. Each proposed action in PVD's proposed noise compatibility program was then reviewed and evaluated on the basis of effectiveness and potential conflict with Federal policies and prerogatives. These include safe and efficient use of the nation's airspace and undue burden on interstate commerce.

Our recommendations on each of these proposed actions are described in the Record of Approval (Attachment 3). Each proposed action is described in detail in the T.F. Green State Airport Noise Compatibility Program Report, Volume I.

Based on the evaluation procedure described above, we recommend the approval of all Program Elements (as listed in the Record of Approval). Please have appropriate headquarters personnel review the draft sponsor notification of noise compatibility program approval (Attachment 4) and the draft Federal Register Notice (Attachment 5).

Clyde DeHart, Jr.

Clyde DeHart

Attachments (5)

Concur Nonconcur

Lawrence S. Taylor
for Associate Administrator for
Airports, ARP-1

8/14/86
(Date)

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David Had
Associate Administrator for Policy
and International Aviation, API-1

8/19/86
(Date)

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E. Jaywell Elliott
Chief Counsel, AGC-1

8/22/86
(Date)

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Donald D. Engen
Administrator

Donald D. Engen
Administrator

AUG 26 1986

Administrator, AOA-1

(Date)

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Attachment 3

RECORD OF APPROVAL

T.F. GREEN STATE AIRPORT WARWICK, RHODE ISLAND NOISE COMPATIBILITY PROGRAM

INTRODUCTION

The Rhode Island Department of Transportation (DOT) sponsored an Airport Noise Control and Land Use Compatibility study at T.F. Green State Airport. The Airport, located in the City of Warwick, is the major air transportation facility serving the State of Rhode Island. The study was initiated in September 1981 as a requirement of the approval of the Environmental Assessment (EA) for the Runway 5R-23L extension project. Aircraft noise and land use incompatibility was determined as the major concern in the EA. The analysis indicated that in 1979 approximately 32,700 persons were estimated to be living in the areas receiving noise levels above LDN 65. The R.I. DOT was therefore requested to provide assurance of necessary actions to achieve land use compatibility prior to issuance of an FAA grant for the runway extension project. The study was undertaken with the funding support from the FAA and the work scope was developed to meet the requirements of the Federal Aviation Regulations Part 150, Airport Noise Compatibility Planning. The City of Warwick was invited to be an active participant in the study. Its representatives were active members throughout the study, from the development of the work scope to the final presentation and adoption of the Noise Compatibility Program by the R.I. DOT.

The major goal of the study was to develop noise abatement and land use planning measures to reduce the incompatibilities between the Airport and surrounding land uses in the City of Warwick. The resulting program is presented in Chapter 5 of the Noise Compatibility Program, Volume I. The program has two components: A. Noise Abatement Measures, including airport physical changes; airport management changes; and airport and airspace procedural changes to achieve noise abatement. B. Land Use Planning Measures to reduce and prevent land use incompatibilities. These measures were categorized as corrective policies; preventive policies and compensatory policies. All the program elements were analyzed in details in terms of noise and environmental, energy, economic, social and community, land use, air traffic and operation effects, and implementation feasibility, as documented in the Appendix A of the Noise Compatibility Program, Vol. II.

The items listed in this Record of Approval constitute the T. F. Green State Airport Noise Compatibility Program and are found on the referenced pages of the T.F. Green State Airport Noise Compatibility Program. Vol. I of December 1985.

Program Elements

A. NOISE ABATEMENT MEASURES

1. Construct fillet at intersection of Runways 5R-23L and 10-28 (P.42). Approved. The proposed fillet will make it easier to exit via Runway 10-28 with less power thrust than is currently the case. The reduction in the asymmetrical thrust will reduce the noise exposure in adjacent neighborhoods. Approximately 800 persons are estimated to benefit from the construction of this fillet. It is eligible for Airport Improvement Program (AIP) funding. Estimated cost, \$224,000. (Represents Federal share as per application for Federal aid.)
2. Construct parallel taxiway serving Runway 5R (P.42). Approved. Construction of a taxiway parallel to Runway 5R to replace the existing diagonal Taxiway 13 is proposed. This would reduce taxi-related noise levels in the Strawberry Field Road area by 7 to 8 dbA by increasing the aircraft-to-receiver distance. The measure would benefit approximately 80 persons in the area. Estimated cost = \$448,000. (Federal share as per request for Federal aid.)
3. Construct noise barrier parallel to Runway 5R extension (P.45). Approved. The barrier was proposed to shield Strawberry Field Road residential area from the current and future exposure from taxi to and pretake-off from Runway 5R. Approximately 160 persons were estimated to experience a 10 dbA reduction in ground operation noise. The construction of such a noise barrier was made a condition of the EA approval for the extension of the Runway 5R. The barrier has already been constructed with the Airport Improvement Program (AIP) funds, as a required component of the extension of Runway 5R project. (Federal share in FY'84 = \$583,200.)
4. Incorporate noise barrier considerations in the design of proposed air cargo building (P.46). Approved. The Airport Layout Plan includes two cargo building for future (mid 1989) roughly parallel to Evans Avenue south of the existing cargo buildings. With proper design these could have the same effect as a barrier. This measure would reduce ground noise exposure for approximately 80 residents of the Evans Avenue area. Estimated cost for a 100' barrier to eliminate the gap between the buildings = \$25,000 (As per NCP in 1982 dollars).

5. Displace landing threshold on Runway 5L (P.46). Approved. This measure would involve displacement of landing threshold on Runway 5L end by approximately 1457 ft. Runway 5L/23R is the major general aviation runway at T.F. Green, and is displaced by a similar length on the 23R end. Approximately 500 people in the approach path would experience reduced noise levels of up to 7 dB from aircraft landing on Runway 5L. Estimated Cost: \$64,000. (Federal share as per request for Federal aid.)
6. Physical Isolation of maintenance runups (P.48). Approved. Maintenance runups were a problem at the Airport when the Airport National Guard operated out of the Airport, particularly for the neighborhood off the east end of Runway 10-28. With the Guard's relocation to Quonset in August 1980, and no maintenance runups the problem is eliminated. However, should similar activities occur at the Airport in the future, careful consideration will be given to designating runup areas in locations away from the sensitive receptors, and if necessary to the construction of runup noise barriers.
7. Voluntary nighttime (midnight to 6:30 AM) restrictions for scheduled air carrier operations (PP 48-49). Approved. At the airport there has been a voluntary agreement with the airlines that results in no scheduled operations between midnight and 6:30 AM. Exception to this voluntary restriction is rare and it has a beneficial effect minimizing nighttime noise exposure and disturbance. Through this measure, the DOT will formalize the nighttime restriction by issuing a policy statement (p.49) to all airlines operating at the Airport.

The aircraft noise reduction legislation enacted and approved by the State of R.I. in 1985 requires a graduated scale of landing fees designed to encourage take-offs and landings between 6:30 AM and 12:00 AM (midnight).

This approval is limited to the voluntary agreement itself. The legality or effect of the Rhode Island legislation or of any implementing State policies have not been assessed and are not addressed here. To the extent that any future State DOT policy formalizing the voluntary agreement was intended to be included within the Part 150 submittal, that item is disapproved pending submission of information needed to permit a full evaluation of its impacts. This disapproval is solely to prevent automatic approval of an unstudied proposal under Section 104(b) of the ASNA Act and does not reflect an FAA judgment with respect to the merits of such policy.

8. Auxiliary Power Unit restrictions (P.49). Approved. Auxiliary Power Units (APU's) are not currently a source of annoyance at T. F. Green because APU's are utilized almost exclusively in front of the Terminal building which shields them from community receivers. The aircraft operating on the apron south of the cargo building limit their APU use to times when the aircraft is north of the building. It is proposed that this practice be formalized through an Airport Operations Directive to guarantee its continuation and prevent a potential problem for the residents in the Evans Avenue area. Approximately 80 persons in that area benefit.
9. Restrictions on aircraft repositioning under power (P.50). Approved. This measure would formalize the existing informal restriction on aircraft repositioning under power on the apron south of the air freight building through an Airport Operations Directive, to guarantee its continuation. Approximately 80 persons in the Evans Avenue area benefit from this policy.
10. Pre-takeoff runup restrictions (PP.50-51). Approved. The purpose of this measure is to abate the noise problem due to three aircraft runup areas that are within relatively close proximity to residential areas with unobstructed line-of-sight exposure. Alternative sites are recommended in each case. Approximately 200 people will benefit from the implementation of this policy, with an estimated noise attenuation of 6 to 10 dBA.
11. Informational program on reverse thrust (P.51). Approved. The purpose of this measure is to voluntarily reduce thrust (consistent with safety) used to slow arriving jet aircraft, which is a potential source of annoyance to residents in adjacent neighborhoods. The program would include distribution of leaflets to all corporate and airline jet pilots operating at the airports and posters in crew lounges. Approximately 800 persons are estimated to benefit.
12. Rotational runway use program (P.52). Approved. This measure is designed to reduce the noise impact associated with "dwell time" on a particular runway. It is proposed that, when feasible, the Team Supervisor in the Tower designate the "active runways" to achieve a goal of limiting dwell on a given runway combination to 24 hours or less. The noise abatement effects of this measure will be experienced by the 9,300 people within LDN 65 and above noise contours as well as others who hear noise from aircraft overflights.
13. Helicopter operating procedures (P.53). Approved. Under this measure the FAA Tower will issue instructions to helicopter operators to climb to 1000 ft. (instead of current 500 ft) before crossing the airport boundary on departure and to maintain 1000 ft until crossing the airport boundary on arrival, when feasible. Approximately 2,800 people within LDN 65 and above noise contours will experience a 6-10 dB reduction in noise levels.

14. Restriction on 180 degrees turns on runway (PP.53-54). Approved. Under this measure the pilots of arriving turbojet and turbo-fan powered aircraft requesting permission from the Tower to perform 180 degrees turns on runways will be denied that permission except under special conditions. Approximately 50% of all Runway 5R air carrier jet arrivals currently do not slow rapidly enough to exit at the intersection with Runway 16-34 and make an 180 degrees turn on the runway just beyond the intersection with 16-34. This sharp turn requires application of substantial asymmetrical thrust, which increases noise exposure in adjacent neighborhoods. This measure in conjunction with the construction of fillet at the intersection of Runway 5R - 23L and 10-28 will reduce the power required to make the turn for exit from Runway 5R - 23L. Approximately 800 persons will receive benefits in terms of reduced noise exposure when this measure is implemented.

B. LAND USE PLANNING MEASURES

1. Voluntary land acquisition program within Ldn 75 (P.62). Approved. Under this measure the RI DOT will conduct a voluntary land acquisition program of all residences within the Ldn 75 contours, the most severely noise impacted area in the Airport environs. This program will encompass 32 homes (based on the latest information in application for Federal Aid) and in addition to correcting existing serious noise problems, it will ensure the prevention of future noise incompatibility in that area. It is intended that the City of Warwick and State of R.I. will cooperatively determine the reuse of the area.

By limiting the acquisition program to homes within Ldn 75 contours minimal social and economic impacts are anticipated. Expanding the program to include all the homes within Ldn 65 is not feasible economically and socially and therefore not being considered.

The estimated cost: \$2.5 million (Federal share as per latest application for Federal aid).

2. Soundproof Pilgrim High School (P.62). Approved. Under this measure the noise-sensitive areas of Pilgrim High School, located within the Ldn 65 contour will be soundproofed. The school is located to the northeast end of Runway 5R-23L and is subject to noise from landing on 23L as well as departure on 5R. Although not required by FAA, avigation easement should be obtained from all recipients of soundproofing funds. Approximately 1500 students will benefit. Estimated Cost: \$200,000 to \$250,000 (in 1982 dollars).

3. Soundproofing of residential structures within Ldn 65 Contour (P.66). Approved. The measure would alleviate existing noise impacts for residents in the airport environ. The program is strongly supported by the residents and officials of the City of Warwick. Approximately 2,900 houses with 9,200 residents would benefit. Given the high cost of this program (\$16.5 million estimated in 1982 dollars) this program is to be implemented after implementation of all other elements of the Noise Compatibility Program. Furthermore, the program is to be phased systematically so that homes in the higher noise exposure zone will receive higher priority.
4. Rezoning selected residential properties between Ldn 70-75 (P.67). Approved. This policy is to reduce the incompatibility in the long term in a mixed use area within Ldn 70 in the Hillsborough neighborhood. When Warwick revises its Zoning Ordinance the residential uses in this area will be rezoned to Limited Business or Commercial. Approximately 10 dwelling units would be affected by this measure.
5. Amend the Subdivision Regulation (P.67). Approved. The intent of this policy is to prevent future development of noncompatible uses in the airport noise impact area. The Subdivision Regulation is to be amended to require developers of residential property within the noise impact area to provide noise compatibility information to the Warwick Planning Board or in the case of appeal, the Zoning Board of Review. The review entity could require mitigation measures to be included in the design as a condition of approval. The types of measures that can be required as a condition of site plan approval are specified in the program.
6. Amend the Building Code (P.68). Approved. Through this measure the Building Code will be revised to require new construction of residential units within the noise impact area to meet an interior noise standard (45 dB) through the use of soundproofing techniques. The details are discussed under the program. In addition, the Building Code would be amended to require the buyers/renters of new residential units to be notified of the existence of airport noise.